

# ILLUMINATED IDENTIFICATION SYSTEM

## CROSS-REFERENCE TO RELATED APPLICATIONS

This application claims the benefit of U.S. Provisional Application No.

5 60/422,086, filed October 29, 2002.

## BACKGROUND

10 The present invention is in the field of home and business identification systems. More specifically this invention relates to illuminated address systems, and associated safety features.

Identifying a home or business when it is dark can be difficult, especially in rural areas where the streets are not lit. An address on a building or a mailbox can be difficult to spot while driving, even when there is some illumination.

15 Several patents have dealt with illuminating an address so as to be more visible at night. For instance U.S. 5,048,210 by Taylor et al discloses a device for illuminating residence information which is a housing with a light source which is mountable on a lamppost. U.S. 5,911,524 by Wilton discloses an automated, illuminated address display and entrance light that includes a lighted address and  
20 a separate light for general illumination around the address area. U.S. 5,522,540 by Surman discloses a solar powered illuminated address number device and mailbox structure. U.S. 4,937,499 by Hunte discloses a photosensitive illuminated house sign.

Even illuminated however, a home or business identification can be  
25 difficult to see under lighting conditions such as dusk, or a semi-lit street. It can also be the case where an address is visible, but it is not noticeable for a variety of reasons such as its location, surroundings or even the inattentiveness of the person trying to locate it. A system for illuminating home or business identification is desired which would make the identification more easily  
30 noticeable. Further, it is desired to have an illumination system which could be remotely activated.

## SUMMARY OF THE INVENTION

An illuminated identification system comprises a light chamber, a lighting means, an opaque identification stencil, a flashing means, a power on/off switch for the lighting means, and an on/off switch for the flashing means. The light chamber is environmentally sealed, and has one surface which is non-opaque. The lighting means is in series with a power source, and is located in the light chamber. The opaque identification stencil is placed over the non-opaque light chamber surface. When the power switch and the flashing means are both on, the flashing means causes the lighting means to flash on and off. Further, the power switch, and/or the on/off switch for the flashing means, may be operated by remote control.

## BRIEF DESCRIPTION OF THE DRAWINGS

FIGURE 1 is a side cross-sectional view of an illuminated identification system according to an aspect of the invention.

FIGURE 2 is an isometric view of a yard post equipped with an illuminated identification system, according to an aspect of the invention.

FIGURE 3 is an isometric exploded view of an illuminated identification system, according to an aspect of the invention.

FIGURE 4 is an isometric view of a mailbox assembly equipped with an illuminated identification system, according to an aspect of the invention.

FIGURE 5 is an isometric view of a mailbox assembly equipped with an illuminated identification system according to an aspect of the invention.

FIGURE 6 is an electrical schematic for an illuminated identification system, according to an aspect of the invention.

## DETAILED DESCRIPTION

Various aspects of the invention are presented in Figures 1-5 which are not drawn to scale and in which like components are numbered alike. Referring  
5 now to Figures 1-3, according to an aspect of the invention, an illuminated identification system **100** comprises an environmentally sealed light chamber **10**, a lighting means **20**, an opaque stencil **30**, a flashing means **60** connected in series with the power source **50**, a first switch **45**, and a second switch **46**. This system may be installed in a post in the yard, a mailbox, or even directly on the  
10 home or business.

The light chamber **10** has a surface **12** which is non-opaque, and the opaque stencil **30** is placed over the non-opaque light chamber surface **12**. The lighting means **20** is in series with a power source **50**, and is in the light chamber **10**. The first switch **45** is in parallel with the flashing means **60**, such that when  
15 the first switch **45** is closed, power flows from the power source **50** to the lighting means **20**, and bypasses the flashing means **60**. When the first switch **45** is open, power flows from the power source **50** to the lighting means **20**, and through the flashing means **60**, causing the lighting means **20** to flash on and off. This allows the home or business identification to be easily noticeable even at  
20 dusk or on well-lit streets, where a lighted identification alone may not be sufficient to attract the appropriate attention. The second switch **46** is in series with the power source **50**, such that when the second switch **46** is open, power does not flow to the lighting means **20**, and when the second switch **46** is closed, power flows to the lighting means **20**. The components of the illuminated  
25 identification system **100** other than the lighting means **20** may be mounted inside the light chamber **10**, or may be mounted external to the light chamber **10**. For example, if the illuminated identification system **100** is used on a house or other building, the components may be mounted to the house/building. If the illuminated identification system **100** is used in a post in the yard (see Figure 2),  
30 the components may be mounted internal to the post, but external to the light chamber **10**.

According to a further aspect of this invention, this illuminated identification system **100** is installed on a mailbox assembly.

In a preferred embodiment, second switch **46** comprises a photocell **80**, which is open when it is daylight, and is closed when ambient light reaches a predetermined level. This allows the lighting means to be lit from dusk to dawn, and turned off during the day, without any operator action.

According to another aspect of the invention, the illuminated identification system **100** further comprises a remote control receiver **40**, in series with a power source **50**, wherein the remote control receiver **40** controls the first switch **45**; and, a remote control **42**, which controls the remote control receiver **40**. The remote control receiver **40** may be located on the light chamber **10**, or it may be remotely located. If the remote control receiver **40** is operating on 110 VAC power, it might be beneficial to locate the receiver somewhere on the premises, so that 110 VAC lines need not be brought to the light chamber **10**.

In addition to the lighting means **20** located in the light chamber **10**, according to a further aspect of the invention an external light **77**, external to the light chamber **10** may be used. Thus for example a carriage light may be mounted on the top of a post, housing the light chamber **10**. This external light **77** is in series with the power source **50**. In a preferred embodiment, the external light **77** is further in series with the second switch **46**, such that the second switch **46** is between the external light **77** and the power source **50**, and further the external light **77** is in parallel with the flashing means **60**.

When the illuminated identification system **100** is not located on the house or building, power must be brought to it. Thus, according to an aspect of the invention, the power source **50** may be a battery. According to a further aspect of the invention, the power source **50** may be a capacitor charged by a solar array. These are intended as examples, and in no way limit the power source, as any appropriate power source is within the purview of this invention.

In order to have a continuous supply of power that will not have to be replaced, and is reliable, power will be brought from the home/building to the illuminated identification system. This power source can be the 110 VAC

typically used by homes; however, there are safety codes which require certain handling of this type of power. For example, a typical code would require 110 VAC lines to be buried 12 inches underground, and 18 inches when going under a sidewalk or driveway. Some local codes even require the buried lines to be in conduit. This can be very expensive and time consuming. In order to avoid these problems, in a preferred embodiment of the invention the power source **50** is a low voltage 12 VAC power source. According to an aspect of the invention, the low voltage power source originates from a standard 110 VAC power source which is routed through a low voltage transformer **52**.

Even with a low voltage transformer **52** rated as 12 VAC, the actual voltage output is something less than 12 VAC, typically around 7-8 VAC. This voltage is acceptable for the lighting means, but is a problem for the remote control receiver **40**, and the photocell/flashing means combination. In order for the photocell to function, it needs a minimum load of impedance across its terminals. This was calculated as the voltage squared divided by the resistance of the flashing means **60**. With an Amperite Co., model # 12F30XB flashing means **60**, this worked out to be approximately 1.6 watts. This could vary depending on the specific flashing means **60** used. Therefore a 2 watt, 100 ohm resistor would ensure that the photocell **80** and flashing means **40** operate correctly with a 20% safety factor. Therefore according to a further aspect of the invention, a resistor **62** is in parallel with the flashing means **60**. In a preferred embodiment of the invention, the resistor **62** is approximately 100 ohms. One type of low voltage photocell **80** which may be used is an Intermatic Incorporated model # LV814PR. This is just an example of a photocell that may be used, as any appropriate photocell is within the purview of the invention.

According to an aspect of the invention, the remote control receiver **40**, may be a 110 V receiver which acts to energize a 110 V relay, wherein the 110 VAC relay is the first switch **45**. Currently there are no relays on the market which will operate on only 7-8 VAC. Therefore, according to an aspect of the invention, the remote control receiver **40** is remotely located from the light chamber **10**. Thus, the remote control receiver **40** may be located at the house/building, while

the light chamber **10** is located elsewhere. In a preferred embodiment of the invention, the remote control receiver **40** is located in the same box as the low voltage transformer **52**.

5 According to another aspect of the invention, the illuminated identification system **100** further comprises a red emergency light **90**, wherein the red emergency light **90** is in series with the power source **50**, a second flashing means **95**, and a third switch **47**, wherein the red emergency light **90** is in series with the third switch **47**, but not in series with the first switch **45** or the second switch **46**. According to an aspect of this invention, the third switch **95** may be  
10 controlled manually by a switch in the home or building. According to a further aspect of the invention, the third switch **47** is controlled by an external alarm system. This red emergency light allows the police or fire department to determine that there is an emergency, rather than someone waiting for a delivery or a guest.

15 According to a further aspect of the invention, a mailbox assembly with an illuminated identification system integral thereto **120**, comprises an environmentally sealed light chamber **10**, a lighting means **20**, an opaque identification stencil **30**, a flashing means **60** connected in series with the power source **50**, a first switch **45**, a second switch **46**, and a mailbox assembly **70**. The  
20 mailbox assembly **70** has a post portion **72**, and a box portion **74**, and has been adapted to accommodate the light chamber **10**. The illuminated identification system functions essentially the same when integrated thusly into a mailbox assembly.

In another embodiment, the mailbox assembly **70** has been adapted to  
25 accommodate the light chamber **10** in the post portion **72**. In a preferred embodiment, the post portion is built from Mantex fiberglass resin board, as this material has the desired durable, environmentally resistant properties desired, although any suitable material is within the purview of this invention.

In a further embodiment, the mailbox assembly **70** has been adapted to  
30 accommodate the light chamber **10** in the box portion **74**. One such adaptation comprises mounting the light chamber **10** to the underside of the box portion **74**.

A further adaptation has the light chamber **10** resting on a shelf which has been installed below the box portion **74**.

In a preferred embodiment of the invention the mailbox post portion **72** has a base **71** which is secured to the ground, and an upper portion **73** which supports the box portion **74**, and further comprises a standard electrical outlet **75** mounted into the upper portion **73**. The electrical outlet **75** is in series with the power source **50**, such that the power source **50** is a standard AC source in series with the electrical outlet **75**. This electrical outlet may then be used to plug in outdoor equipment, lights, etc.

The mailbox assembly with integral illuminated identification system may further comprise an external light **77** such as a coach light, wherein the external light **77** is wired in series with the power source **50**. In a preferred embodiment of the invention, the external light **77** is further in series with the second switch **46**.

As can be seen by the varieties mentioned, there are many ways in which this invention can be utilized. The system can go into a mailbox assembly; the mailbox assembly can have an electrical outlet so as to allow further access to the power supply; the mailbox assembly may further have a coach light. There are also many ways in which the unit can be wired; with the flasher alone, with the flasher and the photocell, with the remote control and the photocell, etc.. The coach light can operate whenever power is supplied; it can flash when the lighting means is flashing. The unit can be remote control activated, or it can be hard wired to operate by a remote switch. Besides the many combinations, there are also many uses for this system, such as on a house or building, on a mailbox assembly, in a lighted identification post placed in a yard, or identifying a dock number or name. Any combinations of the elements disclosed are considered to be within the purview of the invention, even though they may all not be specifically enumerated.

In a further embodiment of the invention, the illuminated identification system **100** comprises an environmentally sealed light chamber **10** having a non-opaque surface **12**, a lighting means **20**, an opaque identification stencil **30**, a

remote control receiver **40**, a second switch **46**, and a remote control **42**, wherein the remote control **42** activates the remote control receiver **40**. The lighting means **20** is in series with a power source **50**, and is in the light chamber **10**.

5 The opaque identification stencil **30** is placed over the non-opaque light chamber surface **12**. The second switch **46** is controlled by the remote control receiver **40**, and is in series with the lighting means **20**, between the lighting means **20** and the power source **50**, such that the remote control receiver **40** can either cause the second switch **46** to close, allowing power to flow to the lighting means **20**, or cause the second switch **46** to open, preventing power from flowing to the  
10 lighting means **20**. As above, this aspect of the invention may be combined with any of the other aspects of the invention, and still fall within the purview of this invention.

According to a further aspect of this invention, this illuminated identification system **100** is installed on a mailbox assembly.

15 According to an aspect of the invention, the opaque identification stencil **30** is a stencil of the home or business address. Any appropriate opaque stencil could be used and still be within the scope of the invention. For instance the opaque stencil could be the name of the homeowner, or of the business. This system could even be used on boat docks where the stencil might be the name  
20 of the boat, the dock number, or the name of the boat owner.